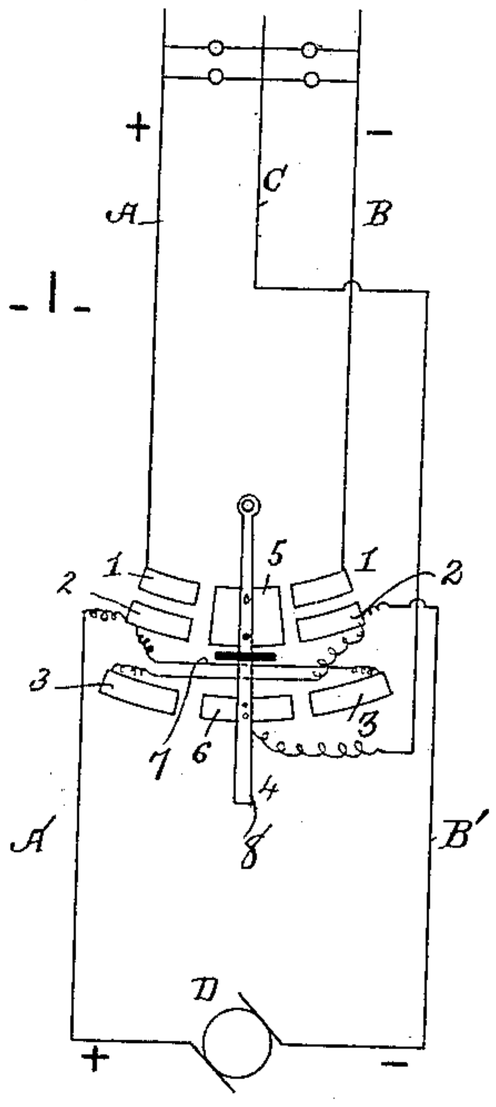
(No Model.)

W. T. M. MOTTRAM.

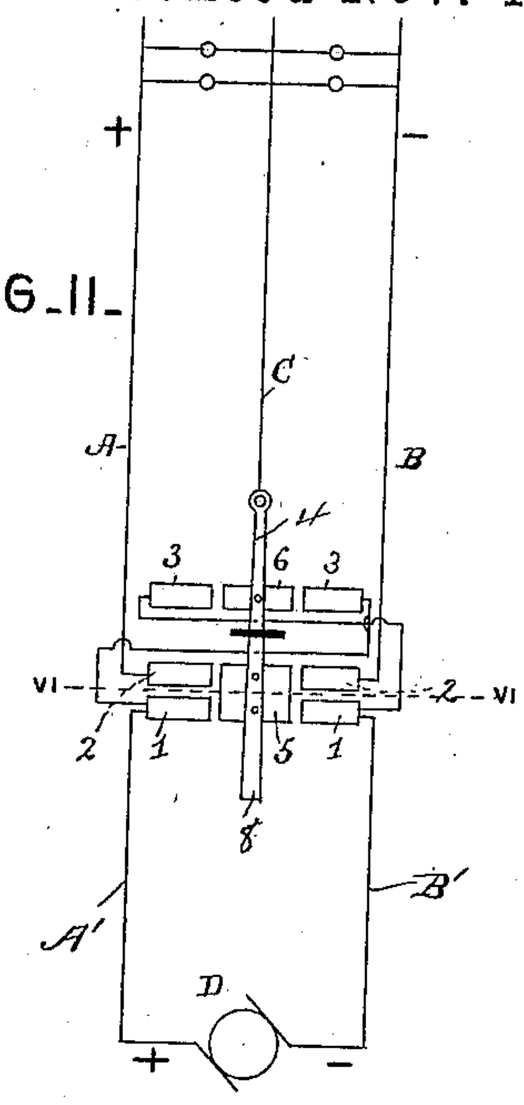
ELECTRIC SWITCH.

No. 549,810. Patented Nov. 12, 1895.

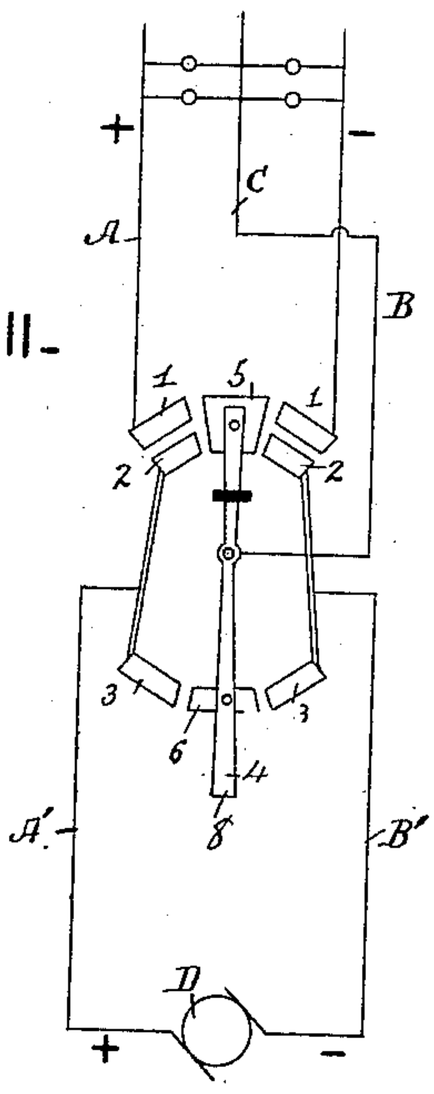
FIG_I_



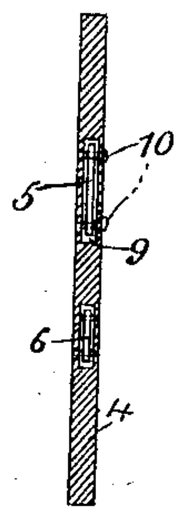
FIG_II_



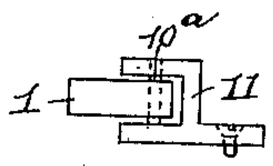
FIG_III_



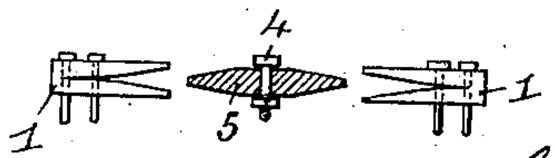
FIG_IV_



FIG_V_



FIG_VI_



Attest:
Jas. K. McCathran
E. Arthur.

Inventor:
W. T. M. Mottram
by Knight Bros.
attys.

UNITED STATES PATENT OFFICE.

WILLIAM T. M. MOTTRAM, OF DALLAS, TEXAS.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 549,810, dated November 12, 1895.

Application filed July 9, 1889. Serial No. 316,916. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. M. MOTTRAM, a subject of the Queen of Great Britain, residing at Dallas, in the county of Dallas and State of Texas, have invented a new and useful Improvement in Electric Switches, of which the following is a specification.

My present invention has relation to a switch for the Edison three-wire system of electric distribution, and has for its object to provide means whereby the translating devices on either side of the middle wire may be supplied with electricity to the exclusion of those on the opposite side, the return-current from said translating devices being transmitted by way of the middle wire.

My invention consists in certain novel features of construction pointed out in the claim, and which will be fully understood upon reference to the following description, in connection with the accompanying drawings, in which—

Figures I, II, and III represent, respectively, three modifications or forms of my device, all constructed and operated on the same principle. Fig. IV represents a vertical longitudinal section of the pivoted arm. Fig. V represents a modification in the construction. Fig. VI is a section on line VI VI, Fig. II.

In the drawings, A, B, and C represent the outer and middle wires, respectively, of a three-wire system of distribution.

A′ and B′ are the feed-wires of the dynamo or other supply, and D the dynamo.

1 and 2 represent, respectively, the terminals of the dynamo-wires and the line-wires, while 3 represents contact-points, which are connected, as stated above, to the respective terminals of the dynamo-wires.

5 and 6 are contact-plates carried by a pivoted arm 4, which may have an end 8 for prehension, the plate 5 being large enough and adapted to contact with the plates 1 and 2 at the same time for establishing electrical connection between them, and the plate 6 being so located that it will contact with either of the points 3, said plate 6 having constant electrical connection with the middle wire of the distributing system.

Of the three forms shown of my device Fig. I represents an arrangement in which the arm is pivoted at one end, so that the necessary electrical connections are made by swinging the arm to the respective sides. In this form of device the points 3 are connected to the diagonally-opposite terminals 2, so that when the lever is swayed to one side to establish connection between the one pair of terminals 1 2 the point 3 on that side will connect, by means of the plate 6 and wire 7, the terminal 2 in the dynamo-wire A.

In Fig. II the arrangement is substantially the same as in Fig. I, except that the plate 6 has electrical connection with the arm 4, which is of conducting material, electrical connection between said arm and the middle wire being made at the swiveled end of said lever. In this case the plate 5 is located on the forward end of the lever and is insulated therefrom.

In Fig. III the lever is represented as pivoted at or near its center, and the contact-points 3 connected to the terminals 2 in the dynamo-wires at the same side of the lever on which they are located. This is owing to the fact that the contact-plates 5 6, being on opposite sides of the swiveled point, move in opposite directions when making contact with the respective terminals or points. In this case the middle wire is also connected to the swiveled point.

In all of these forms of my switch the operation is substantially the same. When the lever is moved to the right in Figs. I and II, the wires B B′ are connected, so as to allow the dynamo to supply the translating devices on that side of the system, and the contact-point 3 on the right-hand side, which has connection with the diagonally-opposite terminal in the wire A′ is connected by means of the plate 6 to the middle wire, so that the circuit may be completed with the dynamo through said plate 6, point 3, and wire A′. The plates 5 and 6 are mounted loosely in slots 9, and secured therein by pins 10, so that the plates will have freedom of vibration and will apply themselves to the surfaces they are to connect. These plates may be either insulated from the stem or lever in which they are mounted, or the lever may be divided into several parts insulated from each other.

As illustrated in Fig. VI, the parts to be connected by the plates 1 2 3 are forked and form spring-contacts with said plates.

As illustrated in Fig. V, the plates 1 2 3 may be loosely mounted in suitable brackets 11 by means of pins 10^a in a manner similar to that in which the plates 5 and 6 are mounted.

While the construction of the plates is only shown in connection with the arrangement of Fig. I, it is obviously applicable to Figs. II and III also.

The advantages of my device are that there is a reduced number of parts, the device is simple, and the substitution of loose contact-pieces on the movable arm for the rigid metal contacts renders the same less liable to heat.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

In combination with juxtaposed pairs of contact points of an electric system, an electric switch, and a contact plate pivoted to the latter and having its contact faces on each side of the switch, whereby said faces are made to adapt themselves to the position of the pairs of contact points to which they are applied, substantially as set forth.

WILLIAM T. M. MOTTRAM.

Witnesses:

JETH MILLER,

WILLIAM ENFIELD.